

ABSTRACT OF THE DISCLOSURE

PROCESSOR AND METHOD OF EXECUTING LOAD INSTRUCTIONS OUT-
OF-ORDER HAVING REDUCED HAZARD PENALTY

A processor having a reduced data hazard penalty includes a register set, at least one execution unit that executes load instructions to transfer data into the register set, and a load queue. The load queue contains at least one entry, and each occupied entry in the load queue stores load data retrieved by an executed load instruction in association with a target address of the executed load instruction. The load queue has associated queue management logic that, in response to execution by the execution unit of a load instruction, determines by reference to the load queue whether a data hazard exists for the load instruction. If so, the queue management logic outputs load data from the load queue to the register set in accordance with the load instruction, thus eliminating the need to flush and re-execute the load instruction.